PREVELENCE AND COMPARE THE LEVEL OF DEMENTIA AMONG OLD AGE HOME DWELLING ELDERS AND COMMUNITY DWELLING ELDERS

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

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CERTIFICATE

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"With man it is impossible, for with god all things are possible" **mark** - 10:27

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ABSTRACT

The research project is **"***A study to determine the prevalence of dementia and to compare the level of dementia among old age home dwelling elders and community dwelling elders of Madurai"*. **Sampling Technique:** total enumerative sampling. **Sample size:** The sample size consists of 300 elderly people, among them 200 elderly were from two selected rural areas and 100 elderly were from two selected old age homes. **Tool**: MMSE (Mini Mental Status Examination) scale was used to assess the status of dementia. **Conceptual framework**: fish bone model. **Data Collection**: Data were collected by using questionnaire. **Statistical analysis:** Obtained data was analyzed in terms of both descriptive and inferential statistics. **Results:** Findings showed that, the overall prevalence of dementia was 17.7% among the total samples. Dementia in rural area was 18% and in old age home was found to be 17%. Mild level of dementia was found among 17% of the samples in the rural area when compared with those dwelling in old age home where 14% had mild level of dementia but Moderate level of dementia was higher (3%) in old age home elders than rural elders (1%). No case of severe dementia was reported. There was significant association between level of dementia and selected demographic variables such as age, sex, type of family, family size, pensioner and dietary intake among those residing in rural area whereas those elderly residing in old age homes had significant association between level of dementia and age.

Conclusions: There exists a significant difference on the mean cognition score between rural dwelling elders and old age home dwelling elders. The prevalence of dementia in rural is little higher than urban area. The health professionals must pay attention to the needs of rural elders and work on lessening the burden of family care givers of patients with dementia.

CHAPTER-I

INTRODUCTION

BACKGROUND OF THE STUDY

"**Rise in the presence of the aged, show respect for the elderly."**

Bible - Leviticus 19:32

Ageing is a natural process. Old age is an incurable disease. You don't heal old age, you protect it, you promote it and you extend it. Old age should be recorded as a normal inevitable biological phenomenon. (Park, 2011)

Demographic projections of population ageing suggest that the world is experiencing a historically unprecedented phenomenon. The 60+ and 80+ age groups' shares of the total population are higher than at any time in history, and their growth is accelerating. The number aged 60 or over has increased from 200 millions in 1950 to around 670 millions today. By 2050, it is projected to reach 2 billions. The number aged 80+ has risen from 14 millions in 1950 to nearly 90 million today, and by 2050 it would have passed 400 millions the current projections are borne out. Twenty percent of the population of the developed countries is over age 60 today, and this will rise to over 30 percent in the next four decades. In the developing world, less than 10 percent of the population is over age 60. By 2050, however, the proportion is expected to more than double, and the 60+ age group will comprise 20 percent of India's population and 30 percent of China's by the middle of this century—a total of over 760 million people. (Mathew & Fem 2009).

Global life expectancy has increased from 47 years in 1950 to above 65 years today. It is projected by the UN Population Division to reach 75 years by 2045. Both the developed and developing countries are seeing rises in life expectancy. As many more people survive into their 60s and beyond, the absolute number of elderly will soar. Combined with fertility declines, this will also result in a sharp increase in the share of elderly in the overall population (UN, World Population Prospects 2005*)*.

The proportion of the elderly in the total population also rose from 5.63 per cent in 2001. India has thus joined the rank of greying nation with over seven per cent of its population in the 60 plus year segment. A United Nation report has predicted that India will have 198 million old (60+) people in 2030 and 326 million in 2050. Currently, there could be around 100 million senior citizens in India (The Hindu, Sep.22, 2010)

According to the India Dementia Report (2010) India was a home to more than 75 million people older than sixty years in 2001. This age group, which was 7.5% of the population, is expected to grow dramatically in the coming decades. Analysis of the census data shows marked variations in the rate of demographic ageing within India ranging from 10.5% in Kerala to 4% in Dadra and Nagar Haveli. Other regions with elderly population above 8% include Himachal Pradesh (9%), Punjab (9%), Maharashtra (8.7%), Tamil Nadu (8.8%), Orissa (8.3%), Goa (8.3%) and Pondicherry (8.3%).

The demand for services will soon be evident in such places and will make the task of meeting the needs for the older people more challenging and urgent. A lot of

our elders are with at least one of the following conditions, and many are dealing with two or more of the following such as:

- Heart conditions (hyper tension), vascular diseases, congestive heart failure, high blood pressure and coronary artery diseases.
- Dementia including Alzheimer's diseases
- Depression
- Incontinence
- Arthritis
- Osteoporosis
- Diabetes
- Cancer and breathing problems (SchneiderL,Dagerman K,Insel.S.,2006)

American Psychiatric Association (2011) studies show that seniors are at greater risk of some disorders and their complications are severe than younger people, and many of these illness can be accurately diagnosed and treated. However, many seniors are reluctant to seek psychiatric treatment that could alleviate or cure their symptoms and return them to their previous life style. Many people don't understand mental illness or even acknowledge its existence, some seniors are ashamed or frightened by their symptoms or believe that they are an inevitable part of ageing. Often seniors, their loved ones and friends, and even their doctors fail to recognise the symptoms of treatable mental illness.

The ageing population is both a medical and social problem. It makes a greater demand on health service of a community in rapidly greying world. Healthy ageing is vital for countries. It is a pre- requisite for economic growth. The predicted explosion of non-communicable disease like cardiovascular disease, cancer and depression in

the ever increasing number of old person globally, will result in enormous human and social costs unless preventive action is taken (Ravaglia et.al., 2005)

Compare to other disease condition (heart diseases and stroke) Alzheimer's diseases is fourth position of the leading cause of death in Asia Pacific region (Alzheimer's Diseases International Report 2006)

Dementia is a syndrome usually chronic, characterized by a progressive, global deterioration in intellect including memory, learning, orientation, language, comprehension and judgement due to disease of the brain. It mainly affects older people; about 2% of cases start before the age of 65 years. After this, the prevalence doubles every five years. Dementia is one of the major causes of disability in late-life. (Jacob.,2010)

Dementia is a major cause of disability in later life and is associated with high costs for the health system and society. The rapid ageing of the World's population, particularly in low- and middle-income countries makes this condition a priority for the public health agenda worldwide. There is increasing evidence suggesting that events across the life course play a role in the etiology of cognitive decline and dementia later in life. (Fratiglioni, et. al. 2007)

As life expectancy is increasing in various regions of the world, dementia is becoming a growing public health concern. In 2005 an estimated 25 million people had dementia, and the number is expected to double every 20 years in the future, reaching 81.1 millions in 2040. In the Western world the prevalence has been estimated as around 15% among 80 year olds and 25% for those over 85, with Alzheimer's disease being the most common diagnosis. Besides the consequences for

the patients and their families, patients might require intensive care, especially in the more advanced stages of the disease. The healthcare costs for people with cognitive impairments in the United Kingdom are estimated to rise from £5.4bn in 2002 to £16.7bn in 2031, (Hakansson, 2009)

Ferri, Prince and Brayne (2005) projected that among UN population were 24.3 million people have dementia today, with 4.6 million new cases of dementia every year (one new case every 7 seconds). The number of people affected will double every 20 years to 81.1 million by 2040. Most people with dementia live in the developing countries (60% in 2001, rising to 71% by 2040). Rates of increase are not uniform; numbers in developed countries are forecast to increase by 100% between 2001 and 2040, but by more than 300% in India, China, and their south Asian and Western Pacific neighbours. In India , the number of people with Alzheimer's Disease and other dementias is increasing every year because of the steady growth in the older population and stable increment in life expectancy and it is expected to increase two-fold by 2030 and three-fold by 2050.

It is estimated that there are 3.7 million elderly currently living with dementia in India, each spending Rs. 43,000 per annum on medical care. Dementia mainly affects older people, although about two per cent of cases start before the age of 65 years. After this, the prevalence doubles every five years with over a third of all people aged 90+ years being affected. With the exponential increase in the population of the elderly (60+ years) in India, an estimated 100 millions today, expected to rise 198 millions in 2030 and 326 millions in 2050, dementia poses a looming public health challenge, the enormity of which cannot be underscored. The report thus

addresses a felt need among professionals, policy makers, dementia sufferers and their families.(Krishnamoorthy, 2010)

Dementia affects more women in India than men -- a trend that counters recent global studies, which claims males who are more prone to suffering from this brain destroying condition. According to the India Dementia Report 2010, which was released on Sep 22, 2010, of the 36 lakh Indians who suffer from dementia, 21 lakhs are women and the rest are men. (Sinha, 2010)

Sukkran,(2009) states that old is always viewed as an unavoidable problem, ridden phase of life that we all are compelled to live, marking time until our final exit from life itself, the necessity to provide quality mental health care for elders in nursing home care setting has been a critical issue, as the ageing population grows rapidly and institutional care becomes a necessity for the older people. The health service provides required special training to handle the elderly. In the urban areas, both public and private efforts are needed to provide health care to the old both for the people who can afford to pay and for those who could not afford to pay as well.

NEED AND SIGNIFICANCE OF THE STUDY

Globally the burden of dementia was reckoned as:

- In 2000, age-standardized dementia mortality rate was 6.7 and 7.7 for 100,000 male and female respectively.
- 24.3 millions have dementia
- 4.6 millions new cases per year

- Worldwide dementia contributes 4.1% of all disability-adjusted life years (DALYs) and 11.3% of years lived with disability and 0.9% of years of life lost

In India, the incidence of dementia was found to be:

- Age standardized death rate of 12.1 per 100,000 reference numbers
- 1.8 millions have dementia in India and South Asia in people above 60 years of age
- 400,000 new cases per year for India and South Asia.
- 1,034 per 100,000 DALYs. (World Alzheimer's Report, 2009)

Dementia reduces the lifespan of affected people. In the developed world, a person with dementia can expect to live for roughly 5-7 years after onset of diagnosis. In low and middle income countries, diagnosis is often much delayed, and survival may be much shorter (Fitzpatrick, and Kalaria, 2008)

According to the World Health Organization (WHO) Global Burden of Disease Report 2006, dementia is the third leading cause contributors to years if life lost due to disability (YLD) in the elderly in low-income and middle-income countries. The WHO Report estimated that dementia is the second highest source of disease burden after tropical diseases. In terms of YLD, dementia contributes 11.2% of YLD in people aged 60 and over, which is more than stroke at 9.5%, musculoskeletal disorders at 8.9%, cardiovascular disease at 5.0% and all forms of cancer at 2.4%. It is predicted that the economic burden of dementia in the Asian region will increase from 58% in 2005 to 68% in 2030, while other conditions will fall from 31% to 19% in 2030 (WHO Global Burden of Disease Report 2006)

Quality of life diminished among elderly patients in institutions and the most marked correlates were a diagnosis of major depression, worse performance in activities of daily living and worse cognitive function. (Pauline Go.,2011)

The Dementia India report 2010 identified that:

- The number of persons with dementia and families affected by dementia is set to increase rapidly.
- The impact of dementia on the individual, the family and society will increase exponentially in terms of the burden, disablement, and costs of care.
- Persons with dementia do not access and use health and social care services.
- Dementia care is characterized by a significant lack of service delivery and evidence on outcomes with interventions.
- A small portion of persons with dementia and families access private health services due to absence or unsatisfactory public services.
- There will be an increase in demand for support services.
- Increased demand for support services will be driven both by the increases in the numbers affected and the shift in the age distribution towards a preponderance of the oldest people, who tend to be frailer and to have more limited informal support networks.
- Lack of awareness among professionals, the family and community, policy makers and agencies to the needs of persons with dementia has led to dementia care being absent or delivered piecemeal and in an inefficient fashion in India.

- More investment and careful planning will be needed to maximize the quality of life of persons with dementia and their families and to accomplish that in an efficient manner with the available resources.
- There are hardly any standard practice guidelines and treatment centers in India and the current health and social care system is characterized by a widespread failure to support persons with dementia and their families.

According to 2009 World Alzheimer's Report, the impact of dementia can be understood from three inter-related levels:

The individual	:	The patient with dementia experiences ill health, disability, impaired quality of life and reduced life expectancy.
The family	:	Dementia in a family member has an overall impact on the entire family and the kinship of the affected person. The family faces significant burden and the illness affects their quality of life. The family forms the cornerstone of care and support of the patient with dementia.
The society	:	The cost of providing care and support is met by the society, either directly through government expenditure and monetary costs or by indirect ways.

The modern philosophy is that the old must continue to take their share in the responsibilities and in the enjoyment of the privileges, which is an essential feature of remaining an active member of the community. The community must assist the aged to fight the triple evils of poverty, loneliness and ill health. Mental health services in a

community are concerned not only with early diagnosis and treatment, but also with the preservation and promotion of good mental health and prevention of mental illness. (K.park, 2011)

The prevalence and factors contribute to dementia may vary between institutionalized and non institutionalized, rural and urban dwelling elders. Many times the demented elders are not identified and referred for treatment by the family member.

Hence the following study is undertaken to identify the severity of problem and compare among rural elders and home for aged elders. So that the remedial measures can be taken at family and community level.

STATEMENT OF THE PROBLEM

A study to determine the prevalence of dementia and to compare the level of dementia among old age home dwelling elders and community dwelling elders of Madurai

OBJECTIVES

1. To assess the overall prevalence of dementia
2. To assess and compare the level of dementia among community dwelling elders and old age home dwelling elders
3. To find out the association between the level of dementia among community dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and, intake of dietary habits
4. To find out the association between the level of dementia among old age home dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, Reason for entry to old age home was done by,, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and, intake of dietary habits

HYPOTHESES

All the hypotheses were tested at 0.05 level of significance.

H1. There will be a significant difference in the level of dementia between community dwelling elders and old age home dwelling elders

H2. There will be a significant association between the level of dementia among community dwelling elders and their demographic like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, pensioner, family history of dementia, consumption of multi vitamin, history of brain injury and, intake of dietary habits

H3. There will be a significant association between the level of dementia old age home dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, Reason for entry to old age home was done by, pensioner, family history of dementia, consumption of multi vitamin, history of brain injury and, intake of dietary habits

OPERATIONAL DEFINITIONS

Prevalence

It refers to the total number of cases of dementia in a selected village and selected old age home at Madurai at the time of data collection period.

Dementia

In this study it refers to a condition where the elderly who have loss of cognitive function as measured by Mini Mental Status Examination (MMSE).

Dementia status

In this study, dementia status refers to the cognitive dimensions, which includes attention, orientation, registration, recall and language.

Elders

It refers to the individuals who were above 60 years of age and residing in rural area and old age homes at Madurai.

Old age home

It refers to a residential facility in which the elderly were admitted for meeting their basic needs.

Rural

It refers to an area which is having less than 35, 000 total population.

ASSUMPTIONS

- Dementia is common among the elderly people.
- Community health nurse has an important role in helping the elderly to adapt to the environment and daily life in order to compensate with their degenerative abilities.
- The prevalence of dementia may differ among elderly residing in rural and urban area.

DELIMITATIONS

- The study is delimited to elderly with dementia residing in selected rural area and old age home, Madurai
- Data collection period will be delimited to 5 weeks.

PROJECTED OUTCOME

The findings of the study will help to identify the prevalence and level of dementia. And the finding of the study will help to compare the level of dementia between elders in selected old age homes and rural area

CONCEPTUAL FRAME WORK

Conceptual framework deals with abstractions (concepts) that are assembled by virtue of their relevance to a common theme. A conceptual framework broadly presents an understanding of the phenomenon of interest and reflects the assumptions and philosophical view of the models designer.

A conceptual map includes all of the major concepts in a theory of framework. These concepts are linked by arrows expressing the proposed linkage between concepts. (Polit, Hungler 2006).

The frame work of the present study is adopted from the fish – bone diagram (Cause- effect 'diagram,1992) the fish – bone diagram has been developed by a group of individual, members of the quality assurance forum.

The fish- bone diagram resembles a fish skeleton with the effect of problem as the fish head and major causes of risk factors as fish fins and tails. The present study was aimed to determine the prevalence and compare the level of dementia among community dwelling elders and old age home dwelling elders.

Fish head refers to the problem. In this study the problem the dementia is a problem which is depicted as fish head, dementia was assessed and compared between the elderly in rural areas verses old age homes.

Fin and tail refers to the risk factors or causes of the problem. In this study, the risk factors for dementia included were advanced ageing, history of dementia in the family, head injury and nutritional deficiencies which represents the fish fin. The tail represents the demographic characteristics like age, sex, religion, education,

marital status, occupation, type of family, head of family, family size, Reason for staying aloney was done by and pensioner status and these factors are to be included while planning for a programme towards promoting quality care for the clients with dementia and their family members.

CHAPTER -II

THE REVIEW OF LITERATURE

Researcher almost never conducts a study in an intellectual vacuum. Their studies are undertaken with in the content of an existing base of knowledge. Researchers generally, undertaken a literature review to familiar them about the topic under study (Polit & Hungler., 2006)

Review of literature was done from published articles, text book, reports and med line search. Literature review is organised and presented under the following headings

1. Concept and theories of ageing
2. General information's about dementia
3. The impact of dementia on the family care givers
4. Studies related to prevalence and risk factors of dementia

I. CONCEPT AND THEORIES OF AGING

AGEING

"Age is an issue of mind over matter. If you don't mind, it doesn't matter". Though older people are at risk of developing many physical, psychological and mental problems, over the past century, our medical field had succeeded in such a way that it has made the elderly persons to live longer. (Michel White., 2006)

I.1. Definition

Ageing is a constant, predictable process that involves growth and development of living organisms. Aging can't be avoided, but how fast we age varies from one person to another how we age depends upon our genes-environmental influences and life style. (Park.K.,2007).

THEORY

Theory may be defined as a duster of conclusions in search of a premise.

A. Psychosociologic theories

As people grow older, their behaviour changes, their social interactions change, and the activities in which they engage change.

The 4 psychosocial theories will discuss here are,

- ❖ Disengagement theory
- ❖ Activity theory
- ❖ Life-course theory
- ❖ Continuity theory

i. Disengagement Theory

It deals with the relationship between a person and other members of the society

ii. Activity Theory

This theory suggests that a person's self concept is related to the roles held by that person.

iii. Life-course Theories

It deal with each stage the person faces crisis or dilemma that the person must resolve to move forward to the next stage.

iv. Continuity Theory

It states that older adults try to preserve and maintain internal and external structures by using strategies that maintain continuity.

i. biological theories

The theory is classified into:

- Genetic (Heredity)
- Non genetic wear and tear.

B. Genetic (Heredity)

Genetic theories are the most promising in relation to finding answers about ageing.

2. Non Genetic (Wear and Tear)

- Ageing is simply the accumulative result of fundamental and universal deteriorative processes such as oxidation, molecular damage, wear and tear, or accumulation of adverse by products. People age like machinery or exterior paint.
- Superficially provides good fit to human aging.
- Popular with general public, some physicians, and others primarily familiar with human ageing.
- Compatible with traditional evolution theory.
- Ignores obvious maintenance and repair capability of living organisms: nails and hair grow, wounds heal, and dead cells are replaced.

C. personality theories

- The task is to develop **ego integrity** with a minimal amount of **despair.** This last stage, referred to delicately as **late adulthood** or maturity, or less delicately as old age, begins sometime around retirement, after the kids have gone, say somewhere around 60.
- Ego integrity means coming to terms with one's life, and thereby coming to terms with the end of life. In response to this despair, some older people become preoccupied with the past.
- The maladaptive tendency in stage eight is called **presumption**. Someone who approaches death without fear has the strength, Erikson calls **wisdom**

D. Other theories

- ✓ **Evolutionary Non-Programmed Theories**

- ♦ Contend that the evolutionary benefit of longer life declines following reproductive maturity.
- ♦ Organisms consequently did not evolve and retain means for living longer.
- ♦ Provides much better fit to life span observations.
- ♦ Fails to match many other observations.
- ♦ Requires a modification to traditional evolutionary mechanics theory.
- ♦ Multiple incompatible proposals based on two different modifications to traditional theory.
- ♦ Better prospects for medical intervention in ageing process: Ageing is not the result of fundamental limitations.
- ♦ Most medical researchers currently favour one of these theories.

- ✓ **Evolutionary Programmed Theories**

- ♦ Contend that organisms purposely limit their own life spans to obtain an evolutionary benefit. Aging is genetically programmed just as growth, reproductive maturity, and other biological events are programmed.
- ♦ Also based on age of reproductive maturity.
- ♦ Requires a diffuse-benefit modification to traditional mechanics theory.
- ♦ Explains the life span differences and provides a better match to many other observations.
- ♦ New discoveries increasingly favour programmed aging.
- ♦ Because ageing is a biological function, medical alteration of that function is likely to be possible. (Current nursing.com.,2010)

II GENERAL INFORMATION'S ABOUT DEMENTIA

The word dementia comes from the Latin de meaning "apart" and men's from the genitive mentis meaning "mind". Dementia is the progressive deterioration in cognitive function - the ability to process thought (intelligence). The deterioration is more than that might be expected from normal aging and is due to damage or disease. Damage could be due to a stroke, while an example of a disease might be Alzheimer's.

According to a study published in 'The Lancet', approximately 24.3 million people had dementia worldwide in 2005, with 4.6 million new cases every year. The number of people with dementia will double every two decades and reach 81.1 millions by 2040. The rate of increase is expected to be faster in developing countries which have rapidly-growing life expectancies. (Lancet. 2005 Dec 17)

A. The signs and symptoms of dementia

Dementia is a set of signs and symptoms

Dementia is a non-specific syndrome in which areas of brain function may be affected, such as memory, language, problem solving and attention. Dementia, unlike Alzheimer's, is not a disease by itself. When dementia appears the higher mental functions of the patient are involved initially. Eventually, in the later stages, the person may not know what day of the week, month or year it is he may not know where he is and might not be able to identify the people around him.

Dementia is significantly more common among elderly people. However, it can affect adults of any age.

- **Memory loss** - the patient may forget his way back home from the shops. He may forget names and places. He may find it hard to remember what happened earlier on during the day.
- **Moodiness** - the patient may become more and more moody as parts of the brain that controls emotion become damaged. Moods may also be affected by fear and anxiety - the patient is frightened about what is happening to him.
- **Communicative difficulties** - the affected person finds it harder to talk, read and/or write.

As the dementia progresses, the patient's ability to carry out everyday tasks diminishes and he may not be able to look after himself.

B. Causes of dementia

- **Alzheimer's disease** - This is by far the most common cause of dementia. The chemistry and structure of the brain of a person with Alzheimer's disease changes and his brain cells die prematurely.
- **Stroke** (Vascular problems) - this means problems with blood vessels (veins and arteries). Our brain needs a good supply of oxygen-rich blood. If this supply is undermined in any way our brain cells could die - causing symptoms of vascular dementia. Symptoms may appear suddenly, or gradually. A major stroke will cause symptoms to appear suddenly while a series of mini strokes will not.
- **Dementia with Lewy bodies** - spherical structures develop inside nerve cells. Brain cells are nerve cells; they form part of our nervous system. These spherical structures in the brain damage brain tissue. The patient's memory, concentration and ability to speak are affected. Dementia with Lewy bodies is

sometimes mistaken for Parkinson's disease because the symptoms are fairly similar.

- **Fronto-temporal dementia** - this includes Pick's disease. The front part of the brain is damaged. The patient's behaviour and personality are affected first, later his memory changes.
- **Other diseases** - progressive supranuclear palsy, Korsakoff's syndrome, Binswanger's disease, HIV and AIDS, and Creutzfeldt-Jakob disease (CJD). Dementia is also more common among patients who suffer from Parkinson's disease, Huntington's disease, Motor Neurone disease and Multiple Sclerosis. People who suffer from AIDS sometimes go on to develop cognitive impairment.

C. Categories of dementia

There are two main categories of dementia

According to most experts; there are two main categories of dementia - cortical and sub cortical dementias.

- **Cortical Dementia** - The cerebral cortex is affected. This is the outer layer of the brain. The cerebral cortex is vital for cognitive processes, such as language and memory. Alzheimer's disease is a form of cortical dementia, as is CJD (Creutzfeldt-Jakob disease).
- **Subcortical Dementia** - A part of the brain beneath the cortex (deeper inside) becomes affected or damaged. Language and memory are not usually affected. A patient with subcortical dementia will usually experience changes in his personality, his thinking may slow down, and his attention span may be

shortened. Dementias which sometimes result from Parkinson's disease are subcortical dementias, as are those caused by AIDS and Huntington's disease.

- A patient with multi-infarct dementia will have both the cortical and subcortical parts of the brain affected or damaged.

D. Diagnosis of dementia

Although there are some brief tests, a more reliable diagnosis needs to be carried out by a specialist, such as a geriatric internist, geriatric psychiatrist, neurologist, neuropsychologist or geropsychologist.

The following tests are commonly used

- AMTS (Abbreviated Mental Test Score) *A score lower than six out of ten suggests a need for further evaluation.*
- MMSE (Mini Mental State Examination) *A score lower than twenty-four out of thirty suggests a need for further evaluation.*
- 3MS (Modified Mini-Mental State Examination)
- CASI (Cognitive Abilities Screening Instrument)

It is important that the patient's score is interpreted in context with his socio-economic, educational and cultural background. The tester must also factor in the patient's present physical and mental state - does the patient suffer from depression, is he in great pain (Stuart and Poster.,2005)

E. Prevention of dementia

Prevention of dementia is the attempt to avoid developing dementia. Although no cure for dementia is available, there are many ways to decrease the risk of acquitting dementia in the first place, including both lifestyle changes and medication.

- "Use it or lose it" might be applied to the brain when it comes to dementia. Intellectual activities help the mind in shape in the older days.
- Activities such as reading, playing cards and board games and playing a musical instrument prevent dementia.
- Involve in physical activities to have proper blood flow to the dominant areas in brain.
- Regular exercise stimulates production of chemicals called growth factors that help neurons survive and adapt to new situations and prevent from dementia.
- Use of non-vegetarian food such as fish consumption reduces the risk of Alzhemer's. Fish is high in docosaheaenoic acid, an omega-3 fatty acid.
- Vegetables and nuts also benefit, because of their high content of polyunsaturated fats.
- Prolonged sleep, more than nine hours, sleep duration (night-time sleep and daytime napping) may be associated with an increased risk of dementia, hence avoided.
- Research has suggested that people with low cholesterol levels have a decreased risk of developing dementia

F. Treatment of dementia

There is no definite cure for dementia since the exact cause of the disorder is unknown. However, it is possible to minimize some common symptoms with medications currently available. They Include:

- **Tacrine (Cognex):-**The drug is seldom prescribed due to many side effects.

- **Newer drugs: -** Such as Donepezil (Aricept), Rivastigmine (Exelon) and Galantamine (Reminy) with fewer side effects are stated to be beneficial for memory improvement.
- **Donepezil** is expected to delay the onset of AD for about one year.
- **Memantine HCI (Namenda):** was actually prescribed for moderate to severe stage AD but now is being prescribed even in earlier stages.
- **Cholinesterase inhibitor: -** Cholinesterase inhibits are used to treat cognitive fuctions and behavioral symptoms.
- **Vitamin supplements: -** Administration of Vitamin E has proved to show positive effects without side effects.
- **Antipsychotic drugs:-** Antipsychotic drugs are sometimes used to treat agitation and belligerence. The drugs include Haloperidol, Risperidone (Risperdal), Benzondiazepines and drugs such as Olanzapine [Zyprexal], Quetiapine [Seroquel], Ziprasadone [Zeldox,Geodon].
- **Opiate drugs** are used to relieve pain.
- **Clonazepam** and **Sodium valproate** are used to relieve myoclonus. (Lalitha.K., 2007)

III. THE IMPACT OF DEMENTIA ON THE FAMILY CARE GIVERS

Feng Lu and Guerrieroaustrom (2005) conducted a cross sectional study to compare care giving stress, health status, physical function, symptom presence and severity, and self-care behaviours in family care givers with high and low depressed mood at Indianapolis..The study revealed that the Caregivers with high depressed mood reported higher levels of care giving stress, experienced more symptoms and more symptom severity and had more physical performance difficulty than those caregivers with low depressed mood.

A descriptive study conducted by Tamilynbakas et al (2007) to estimates the prevalence of depressed mood in a total of 769 caregivers of individuals with mild cognitive impairment and assessed whether demographics, stressors, intrapsychic strain, and gain are associated with depressed mood. They used a cross sectional, co relational design and univariate and block-wise logistic regression analyses for the study. The study revealed that the odds of being depressed were significantly higher in younger, non spousal caregivers with less education, who cared for mild cognitive impairment patients with lower activities of daily living functioning, and who perceived greater relational deprivation, higher levels of self-loss, and personal gain.

Shanley and Russell.C.,(2011) conducted a qualitative study to estimate experiences and needs of 15 family carers of people with end-stage dementia. The researchers have reported that the major themes emerging from the accounts of participants' experiences were: getting support; having to trust others for care; managing the loneliness of being a carer; witnessing a loved one fade away; anticipating and experiencing death; and re-establishing life after the funeral. Carers expressed a range of instrumental and psychosocial needs. The study emphasized that

the amount of support carers can provide to each other through support groups and associated friendships, and stresses the importance of healthcare staff acknowledging and respecting this capacity of carers

A descriptive study conducted by Savla, Roberto, Blieszner, Cox, and Gwazdauskas (2011) to estimate the documents on spousal accounts of daily symptoms and behaviours of their husbands or wives with mild cognitive impairment and assesses how mild cognitive impairment related symptoms and care needs are associated with 30 spouse care partners' psychological well-being. The spouse care partners participated in a 7-day diary study and reported on behaviour problems associated with mild cognitive impairment as well as daily stressors and strains they experienced. The researcher found that the findings document the negative physiological effects of having a spouse with MCI and provide new details on probable causes of psychological and biological distress.

Blieszner and Roberto (2009) conducted a study to estimate the characteristics, responses, and psychological well-being of care partners who support and assist older adults recently diagnosed with mild cognitive impairment. The 106 diagnosed with MCI at memory clinics, the researcher conducted face-to-face interviews among 106 care partners of community residents they used the Pearlin advance caregiver stress process model scales and open-ended questions to measure psychological well-being of care partners. The researcher revealed that the care partners' depressive symptoms were higher in the context of poorer health, lower perceived importance of religion, less knowledge about dementia, being more bothered by the older adult's MCI symptoms, having a lower sense of environmental

mastery, more perceived burden, more frequent use of coping strategies and more social support.

The 10/66 Dementia Research Group's study (2004), in India and other low income and middle income countries examined the impact of care giving for an elderly population and found that carers of people with dementia spent significantly longer time providing care compared to carers and co-residents of depressed persons or others. The highest proportion of time was spent communicating, supervising and helping with eating and toileting. The majority of carers were in paid employment, many of which had to take time off work to provide care. This resulted in an economic burden exacerbated with increased health care expenses over time. Moreover, carers of elderly people with dementia experienced greater psychological distress compared to carers of elderly people with other medical conditions.

IV. STUDIES RELATED TO PREVALENCE AND RISK FACTORS OF DEMENTIA

The global population age 65 or older was estimated at 461 million in 2004, an increase of 10.3 millions just since 2003. Projections suggest that the annual net gain will continue to exceed 10 millions over the next decade more than 850,000 each month. In 1990, 26 nations had older populations of at least 2 millions, and by 2000, older populations in 31 countries had reached the 2 millions mark. Projections to 2030 indicate that more than 60 countries will have at least 2 millions people age 65 or older (Alzheimer Dementia Report.,2006).

WHO (2005) did a study on global incidence of dementia. It gives prevalence rate estimate that 24.3 million people have dementia today, with 4.6 million new cases

of dementia every year (one new case every 7 seconds). The numbers of people affected will double every 20 years to 81.1 millions by 2040. Most people with dementia live in developing countries (60% in 2001, rising to 71% by 2040). Rates of increase are not uniform; numbers in the developed countries are forecast to increase by 100% between 2001 and 2040, but by more than 300% in India, China, and their south Asian and western Pacific neighbours.(Ferri,et al)

Scazufar,et.al., (2008) conducted a prevalence study to estimate the association between indicators of socio economic disadvantages throughout the life-course and dementia among 2005 older adults above 65 years, in Sao Paulo, Brazil. The researcher used baseline data from the SPAH study. The study revealed that Indicators of socioeconomic disadvantage in early life were associated with increased prevalence of dementia. Head circumference and leg length were also clearly associated with dementia but there was no evidence that this association was mediated by early life socio economic disadvantage. There was an association between cumulative unfavourable conditions across the life course and dementia.

Gureje, Ogunniyi, Kola and, Abiona. (2011) conducted a descriptive study to estimate the Incidence of and risk factors for dementia among 1225 persons aged 65 and above in Yoruba Nigerians. The researcher used community cohort- multistage clustered sampling of households for this study. The researcher revealed that the estimated incidence of dementia was 21.85 per 1,000 persons per years . Compared with men, the age-adjusted hazard ratio for women was 2.12 . Incidence increased linearly with age such that, compared with participant aged 65 to 74, the hazard ratio , adjusted for sex, for participants aged 75 to 84 was 2.84 ($P<.001$) and for those aged 85 and older was 4.13 ($P<.001$). Greater incidence of dementia was found with more-

rural residence and poorer economic status. Participants with poor social engagement at baseline were at significantly greater risk of incident dementia

Fillenbaum, Heyman, Williams, Prosnitz and Burchett (2009.) did an epidemiological study to compare the cognitive function of 4164 residents in a five county area of piedmont North Carolina. Out of 4164 samples 164 were subsequently diagnosed as demented.

According to the World Alzheimer Report (2009). It was estimated that the numbers of people with dementia, by State in India the years 2011, 2016 and 2026 by state and region in India. It illustrates that by 2026 more than 500,000 older people with dementia are expected to be living in Uttar Pradesh and Maharashtra. In other states (Rajasthan, Gujarat, Bihar, West Bengal, Madhya Pradesh, Orissa, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu) around 20,000 to 40,000 persons with dementia are expected within the next 26 years. Compared to 2006, Delhi, Bihar and Jharkhand are expected to experience 200% (or greater) increment in total number of dementia cases over 26-year period. Other states (Jammu and Kashmir, Uttar Pradesh, Rajasthan, Madhya Pradesh, West Bengal, Assam, Chhattisgarh, Gujarat, Andhra Pradesh, Haryana, Uttaranchal, Maharashtra, Karnataka and Tamil Nadu) are proposed to experience 100% (or more) change in number of older people with dementia

Chandra.et.al (2002) conducted a descriptive study to determine the prevalence of AD and other dementias in a rural elderly Hindi-speaking population in Ballabgarh in northern India. The researcher performed a community survey of a cohort of 5,126 individuals aged 55 years and older the researcher found that an

overall prevalence rate of 0.84% (95% CI, 0.61 to 1.13) for all dementias with a CDR score of at least 0.5 in the population aged 55 years and older and an overall prevalence rate of 1.36% (95% CI, 0.96 to 1.88) in the population aged 65 years and older. The overall prevalence rate for AD was 0.62% (95% CI, 0.43 to 0.88) in the population aged 55+ and 1.07% (95% CI, 0.72 to 1.53) in the population aged 65+. Greater age was associated significantly with higher prevalence of both AD and all dementias, but neither gender nor literacy was associated with prevalence.

A descriptive study conducted by S. SHAJI et, al (2005)., to assess the Prevalence of dementia in an urban population in Kerala, India to investigate the prevalence, psychosocial correlates and risk factors of various dementing disorders in an urban population in Kerala, southern India. In this study a door-to-door survey was conducted in the city of Kochi (Cochin) to identify residents aged ≥65 years using cluster sampling. Of 1934 people screened with a vernacular adaptation of the Mini-Mental State Examination, Prevalence of dementia was 33.6 per 1000 (95% CI 27.3-40.7). Alzheimer's disease was the most common type (54%) followed by vascular dementia (39%), and 7% of cases were due to causes such as infection, tumour and trauma. Family history of dementia was a risk factor for Alzheimer's disease and history of hypertension was a risk factor for vascular dementia.

Poddar et.al. (2011), conducted an epidemiological study to estimate the prevalence of dementia in the community, its socio demographic and behavioural associates to determine the risk factors among resident of two districts of eastern Uttar Pradesh. This study was based cluster sampling on 2890 subjects aged 50 years and above, residing in rural areas of Mirzapur and urban areas of the Varanasi district of eastern Uttar Pradesh .The overall prevalence of dementia was found to be 5.1%. This

percentage was increasing with age and decreasing with educational level. Among females, the prevalence of dementia was observed (7.2%) to be double than that in males (3.8%). Widows/widowers/unmarried had a double prevalence (9.3%) as compared with married (4.3%) people. The age, gender, marital status, education, occupation, number of family members in the household and liquor addiction were found to be significantly associated with dementia.

CHAPTER -III

RESEARCH METHODOLOGY

The research methodology is the back bone of research study. This chapter provides a brief description of the method adopted by the investigator. It includes research approach, research design, the setting, the population, sample and criteria for sample selection. It further deals with the development of the tool, its validity, reliability, pilot study, procedure for data collection, plan for data analysis and protection of human rights.

RESEARCH APPROACH

The research approach used for this study is Survey approach. Survey approach is a non experimental research that focuses on obtaining information regarding the activities and beliefs performance and attitudes of people through direct questioning of a sample of respondents (Polit & Hungler 2006). Hence the researcher chose survey approach for this study.

RESEARCH DESIGN

A descriptive comparative survey design was adopted for this study. Descriptive research is the exploration and description of phenomenon of real life situation. It provides an accurate account of characteristics of particular individual, situation of groups. (Polit & Hungler 2006)

SETTING OF THE STUDY

The setting chosen includes two different settings

1. Selected rural areas, - Kallandhri Block (Kadachanenthal and Kadhakinaru)
2. Old age home- Home for Aged (Narayana Guru and Mahalingam Kamakodi)

Description of the setting

The rural area

The rural areas include Kadachanenthal and Kadhakinaru villages under the Kallandhri Block PHC which are 15 kms away from Sacred Heart Nursing College. The total population of Kadachanenthal village was 1954 among that there were 158 elderly people in the age group of above 60 years. The total population of Kadhakinaru village was 561. Among that there were 52 elderly people in the age group of above 60 years. The health services are provided by kallandhri Primary Health Centre which is 5 kms away from Kadachanenthal and Kadhakinaru.

Old age home

The Sri Narayana Guru Home For Aged is situated at Pykra 8 kms away from Sacred Heart Nursing College having a member population of 55 elderly people, This is run by Bharathi Trust. The members are admitted without collecting fee from them. Sri Mahalingam Kamakodi Home for Aged which is situated at Simmakkal 5 kms away from Sacred Heart Nursing College is having a member population of 60 elderly people. This is managed by the Hindu mission Trust. The members have to pay 3500 per month for the facilities received in the old age home.

THE POPULATION

Polit (2004), stated that the requirement of defining population for a research project arose for the need to specify the group to which the results of the study can be applied.

The study population comprised of elderly with dementia

SAMPLE

Sample is a small portion of population which represents the whole population. The sample of this study was elderly with dementia in selected rural area and selected old age homes, at Madurai

SAMPLE SIZE

The sample size consisted of 300 elderly. Among them 200 elderly were from rural area and 100 elderly were from old age homes, who fulfill the inclusion criteria were selected.

SAMPLING TECHNIQUE

Sampling can be defined as selected some parts often aggregate or totality on the basis of which judgment or inference is made. Treece and Treece (2003).

Door to door house hold survey was done to identify the elders using total enumerative sampling technique, then the elders in the selected setting were screened for dementia and were compared between settings.

CRITERIA FOR SAMPLE SELECTION

The sample were selected on the basis of the following criteria:

Inclusion criteria

- Elderly both male and female with dementia above the age group of 60 years.

Exclusion criteria

Elderly who

- are not willing to participate
- are not able to speak
- are having severe physical and mental illnesses.

DATA COLLECTION TOOL

Treece and Treece (2003) states that the instrument selected on a research must be the vehicle that obtains the best data for drawing the conclusion of the study. As the purpose of present study was to describe the prevalence and level of dementia among elderly, MMSE (Mini mental status examination), published by Folstein, and McHugh in 1975 was used. This is a standardized scale having two parts.

Description of the tools

Part I:

a) demographic variables such as age, sex, religion, education, marital status, occupation,
b) Family profile such as type of family, head of family, family size,
c) Pre disposing factors such as reason for staying alone was done by, pensioner, family history of dementia, consumption of multi vitamin, history of brain injury and, habits of dietary intake.

Part II:

Mini mental status examination includes simple questions assessing several different areas like the time and place of the living, repeating lists of words, language use, attention, delayed verbal recall, repetition, reading, writing, coping, etc.

Interpretation

If the score is

24 or greater	-Normal cognition
17-23	-Mild (early dementia stages)
10-16	-Moderate (middle dementia stages)
<10	-Severe (late dementia stages)

TESTING OF THE TOOL

Reliability

Inter rater reliability technique was used to assess the reliability of the instrument.

The ‘r’ value obtained was 0.86, which showed that the tool was reliable.

Validity

Validity of the tool was established by submitting the tool to five experts from Community Medicine, Psychiatry, Community Health Nursing, Mental Health Nursing and Medical Surgical Nursing. Based on their valuable suggestions, reforming of tool was done and the validity was established.

PILOT STUDY

The purpose of the Pilot study was to determine the feasibility of the study. It was carried out in 20 elderly with dementia; 10 from rural area, 10 in selected old age home, Madurai

DATA COLLECTION PROCEDURE.

Before starting the study, the researcher obtained formal permission to conduct the study from the Dissertation Committee of Sacred Heart Nursing College. Formal permission was obtained from DDHS, Kallandhri Medical officer, Management of the Old age homes. Village health nurse of the Kallandhri PHC inducted the researcher to the Kadachanenthal and Kadhakinaru village. The researcher met the Panchayat President of the selected villages and obtained formal permission from the village panchayat. Survey was conducted to collect the census of elderly population in both villages . The researcher introduced himself to each subject

and explained the purpose of the study in both setting. Based on the criteria for sample selection, the researcher selected subjects and provided a MMSE (Mini Mental Status Examination).

The following schedule was adopted for the above of data collection process.

Duration	**Activities**
1st Week 27.7.11 – 2.7.11	Conducted survey in Kadachanenthal and Kadhakinaru (Kallandhri PHC). Explained the purpose of the study to the elderly and family members and collected demographic data.
2nd – 4th week 4.7.11 – 18.7.11	Assessed the prevalence of dementia among 200 elderly people.
5th & 6th Week 19.7.11 to 6.8.11	Assessed the prevalence of dementia among 100 elderly people in 2 old age homes (50+50).

PLAN FOR DATA ANALYSIS

Data analysis was done according to the objectives of the study. Both descriptive and inferential statistics were used for analysis.

Descriptive analysis

Frequency, percentage and mean were used for analysis of the demographic variables.

Inferential statistics

Chi-square test was used to determine the association between the level of dementia and selected variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, reason for staying alone was done by, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and intake of dietary habits. Independent 't' test of comparison was used to compare the level of dementia between community dwelling elders and old age home dwelling elders.

PROTECTION OF HUMAN RIGHTS

The pilot study and main study was conducted after the approval of the Dissertation Committee of the college. Permission was obtained from the Village Panchayat President, Deputy Director Of Health Services and from the Chairmans of old age homes. Informed consent of the subjects was obtained verbally before starting data collection. Assurance was given to the subjects that confidentiality would be maintained

CHAPTER IV

Data Analysis and Interpretation

Analysis is a process of organizing and synthesizing data in such a way that research questions can be answered and hypotheses tested (Polit & Beck,2008)

This chapter deals with the description of samples, analysis and interpretation of the data collected and achievement of the objectives of the study. The data were collected from 200 elderly people residing in the rural area and 100 residing in the old age home, in order to identify the prevalence and level of Dementia. The data collected were tabulated and presented under the following sections.

Section I

This section deals with the distribution of samples according to demographic characteristics (Table 1)

Section II

This section deals with the overall prevalence of dementia among elderly people (Table 2-4)

Section III

This section deals with the comparison of dementia level among community dwelling elders Vs old age home dwelling elders (Table 5).

Section IV

This section deals with the association between the level of dementia among community dwelling elders and their demographic variables like age, sex, education, type of family etc…. (Table 6)

Section V

This section deals with the association between the level of dementia among community dwelling elders and their demographic variables like age, sex, education, type of family etc…. (Table 7)

SECTION I

Demographic characteristics

Table 1.Frequency distribution of samples according to Personal demographic characteristics

(N=300)

Personnal Characteristics	Rural Elders (n=200)		Old Age Home Elders (n=100)		Total (n=300)	
	F	%	F	%	F	%
Age:						
61-70 years	135	67.5	37	37	172	57.34
71-80 years	57	28.5	50	50	107	35.67
81-90 years	8	4	12	12	20	6.67
Above 90 years	-	-	1	1	1	0.33
Sex:						
Male	108	54	26	26	134	44.66
Female	92	46	74	74	166	53.33
Religion:						
Hindu	191	95.5	97	97	288	96
Christian	5	2.5	2	2	7	2.33
Muslim	4	2	1	1	5	1.6
Marital status:						
Single	7	3.5	8	8	15	5
Married	139	69.5	43	43	72	60.66
Widow/widower	54	27	48	48	02	34
Separated	-	-	1	1	1	0.33
Educational status:						
Illiterate	166	83	61	61	226	75.6
Primary	29	14.5	17	17	46	15.33
Secondary	5	2.5	18	18	23	7.67
Higher secondary	-	-	3	3	3	1
Graduate	-	-	1	1	1	0.33

Table cont….

Occupation:						
Unemployed	129	64.5	86	86	215	71.66
Unskilled	44	22	3	3	47	15.66
Semiskilled	15	7.5	3	3	16	5.33
Skill full	9	4.5	1	1	10.	3.33
Farmer/shop owner	3	1.5	5	5	8	2.66
Professional	-	-	2	2	2	0.66

The above table 1 depicts the following information.

Nearly Two thirds of subjects (57.33%) belonged to 61-70 years of age, Most of the subjects (53.33%) were females, Nearly all subjects (96%) were Hindus , Nearly two thirds of subjects (60.67%) were married and ¾ the of subjects (75.67%) were illiterate (Figure.2,3&4).

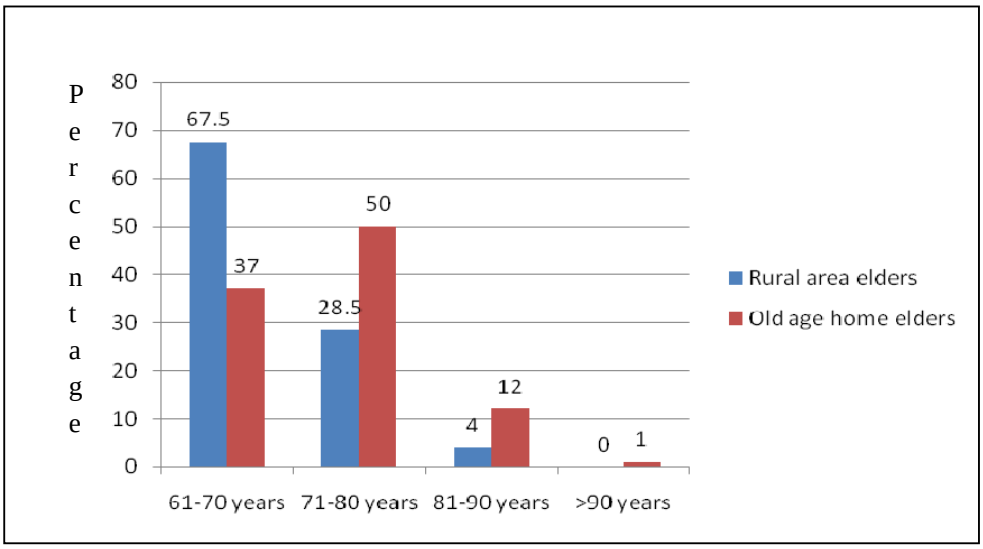

***Figure* 2: Percentage distribution of age of elders residing in rural and old age homes**

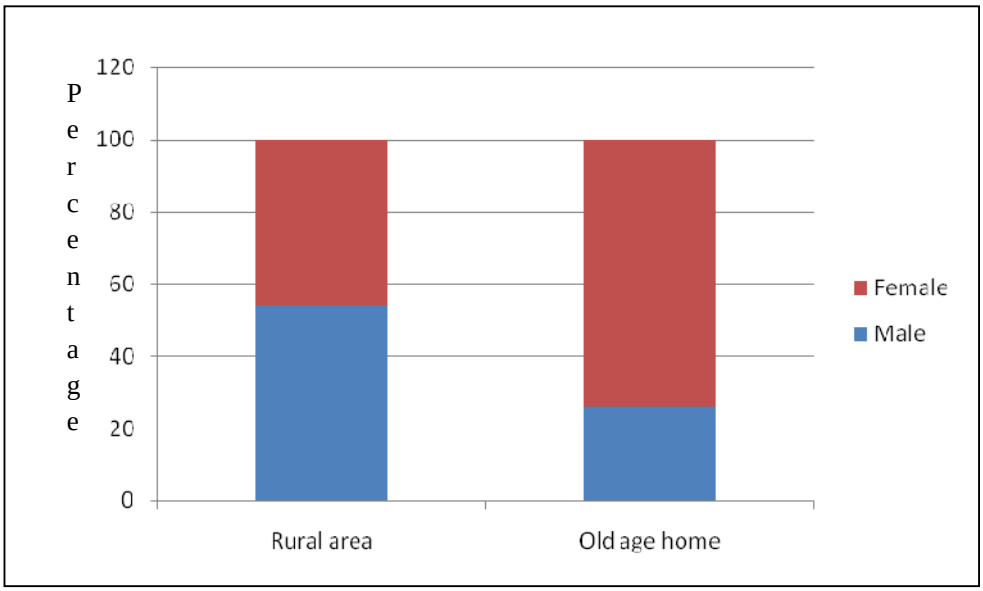

***Figure 3:* Percentage distribution of sex of elders residing in rural and old age homes.**

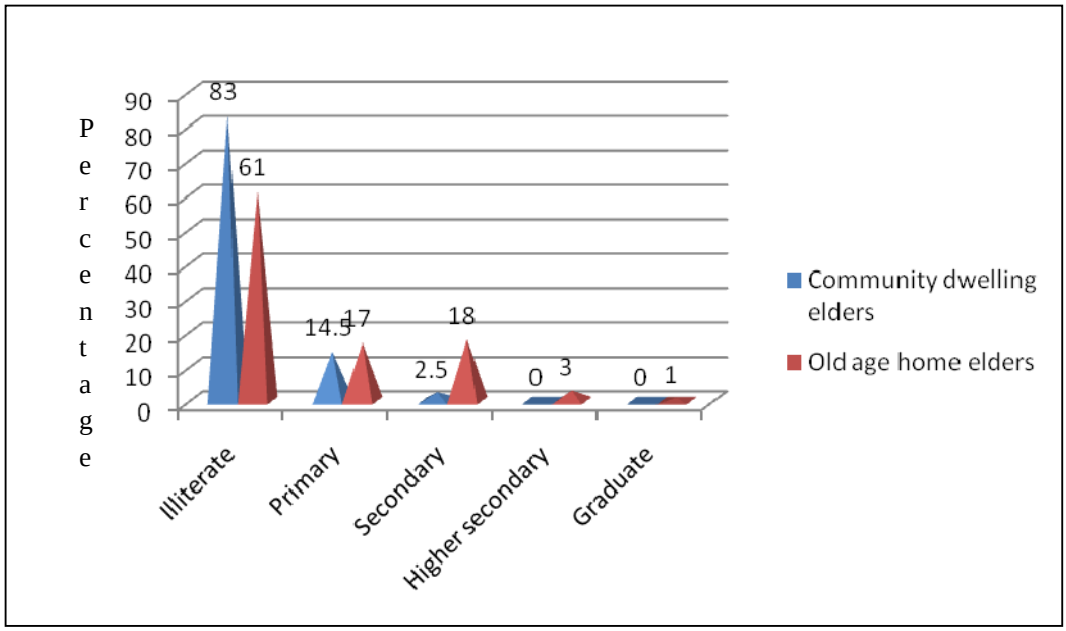

***Figure* 4: percentage distribution of educational status of elders residing in rural and old age homes**

Table 2.Frequency distribution of sample according to family demographic characteristics (N=300)

Family Characteristics	Rural Elders (n = 200)		Old Age Home Elders (n = 100)		Total (n = 300)	
	F	%	F	%	F	%
***Type of Family**						
Nuclear	55	27.5	64	64	119	39.66
Joint	144	72	35	35	179	59.66
Large Family	1	0.5	1	1	2	0.66
***Head of family**						
Self	20	10	7	7	27	9
Husband/wife	32	16	2	2	347	11.33
Relatives	8	4	45	45	53	17.66
***Family Size**						
1-3	15	7.5	9	4.5	24	8
4-6	140	70	57	57	198	66
7-9	45	22.5	33	33	77	25.66
10-12	-	-	1	1	1	0.33

*All the variables in old age home elders refers to those before their entry to the old age homes.

The above table 2 depicts the following information.

Most of the subjects (59.67%) belonged to joint family. Nearly two third of the subjects (62%) had son/daughter as head of family, family size of two third (66%) of subjects were 4-6.

Table 3.Frequency distribution of samples according to factors predisposing to Dementia demographic characteristics

(N=300)

Predisposing Characteristics	Rural Elders (n = 200)		Old Age Home Elders (n = 100)		Total (n = 300)	
	F	%	F	%	F	%
***Reason for entry to old age home**						
Own decision	-	-	-	55	67	22.33
Forced by family members	-	-	-	38	47	15.66
None to take care	-	-	-	7	186	62
Pensioner						
Yes	9	4.5	47	47	56	18.66
No	191	95.55	53	53	244	81.33
Family history of dementia						
Yes	-	-	99	99	299	99.67
No	200	200	1	1	1	0.33
History of brain injury						
Yes	1	0.5	-	-	1	0.33
No	199	99.5	200	200	299	99.64
Dietary intake						
Adequate	164	82	64	64	228	76
Moderate	34	17	27	27	61	20.33
Inadequate	2	0.67	9	3	11	3.67

The above table 3 depicts the following information.

*Not application for community Dwelling Elders

Nearly 1/4th of the subjects (22.33%) themselves decided to stay alone, only 1 (0.33%) had Family history of Dementia, ¾th of the subjects (84.34%) had no habit of multi vitamin intake, only 1 (0.33%) had history of brain injury. Nearly two third of subjects (68.67%) had adequate dietary intake.

SECTION II

This section deals with the overall prevalence of dementia among community dwellers and old age home dwellers

Table 4. Overall prevalence of dementia among community dwellers and old age home dwellers

(N=300)

PREVALENCE OF DEMENTIA	Community n=200		Old age home n=100		Total N=300	
	F	%	F	%	F	%
Normal elderly	164	82	83	83	247	82.3
Elderly with Dementia	36	18	17	17	53	17.7

Table 4 explains that 82% of the elderly residing in the community area and 83% in the old age home were non demented. 36(18%) samples in the community area had dementia whereas 17 (17%) of those residing in the oldage home had dementia. The overall prevalence of dementia among elderly in the community area was found to be 53 (17.7%).

SECTION III

This section deals with

- comparison of level of dementia between community dwellers and old age home dwellers
- Comparison of cognitive dimensions of dementia among community dwellers and old age home dwellers
- Comparison of Mean dementia score among community dwellers and old age home dwellers

***Table* 5- Comparison of level of dementia among community dwellers and old age home dwellers**

(N=53)

LEVEL OF DEMENTIA	Community n=36		Old age home n=17		Total N = 53	
	F	%	F	%	F	%
Mild Level	34	94.4%	14	82.3%	48	90.5%
Moderate Level	2	5.6%	3	17.7%	5	9.5%
Severe Level	-	-	-	-	-	-

From *table* 5, it is inferred that among community dwelling elders (34) 94.4% had mild dementia and (1) 5.6% had moderate level of dementia whereas (14) 90.5% of the elderly in the old age home had mild level and (3) 9.5% had moderate level of dementia. There was no report of severe dementia among the old age home dwellers and community dwelling elders (Figure.5).

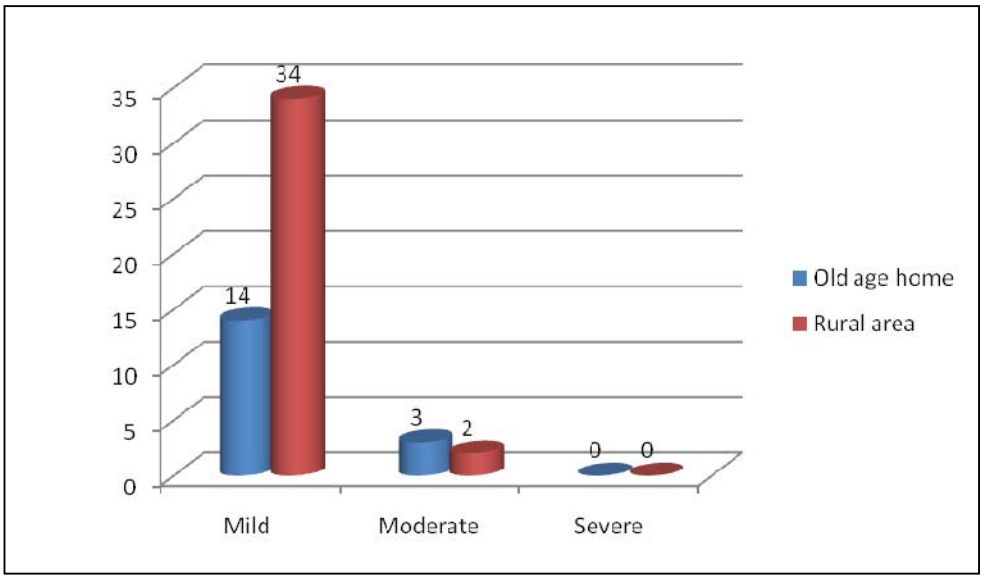

***Figure* 5: comparison of level of dementia among community and old age home dwelling elders**

***Table* 6- Comparison of cognitive dimensions of dementia among community dwellers and old age home dwellers**

N=53

Domains on Dementia	COMMUNITY (n=36)				OLD AGE HOME (n=17)			
	BELOW MEAN		ABOVE MEAN		BELOW MEAN		ABOVE MEAN	
	F	%	F	%	F	%	F	%
Orientation	6	16.6	30	83.3	4	23.5	13	76.4
Registration	2	5.55	34	94.4	1	5.88	16	94.1
Attention	34	94.4	2	5.55	13	76.4	4	23.5
Recall	1	2.7	35	97.2	7	41.1	10	58.8
Language	11	30.55	25	69.4	5	29.4	13	76.4

Table 6 describes that among the domains in cognition score, attention was affected severely in 94.4% of elders in the rural area whereas in old age home 76.4% were affected. 5.5% had orientation disturbance in the rural area, whereas 23.5% had orientation disturbance in old age home. Registration was affected slightly in rural area (5.55%) and old age home dwelling elderly (5.88%). 41.1% of elderly in old age home had recall deficit while only 2.7% of rural elderly had the problem with recall. 29.4% of old age home elderly and 30.55 % of rural elderly had problems with language.

***Table* 7: Comparison of Mean dementia score among community dwellers and old age home dwellers**

N=300

Group value	N	M	MD	SD	't'
Community Dwellers	200	23.55		3.71	
			1.215		-2.40*
Old Age Home Dwellers	100	26.75		4.82	

*Significant at 0.05 level

To compare the mean dementia score among community dwellers and old age home dwellers, the null hypothesis was stated as follows:

$H_{01:}$ There will be no significant difference between the mean dementia score among elderly community dwellers and old age home dwellers

Table 7 portrays that the mean dementia score of community elderly dwellers is 23.55 and also the mean score of 26.75 old age home elderly dwellers which shows that community dwelling elders' cognition level is lower than old age home dwelling elders. The obtained 't' value of -2.40 at df (298) was significant at 0.05 level. ie there is a significant difference between community dwelling Elders and old age home dwelling elders. So the researcher rejected the null hypothesis and accepted the research hypothesis.

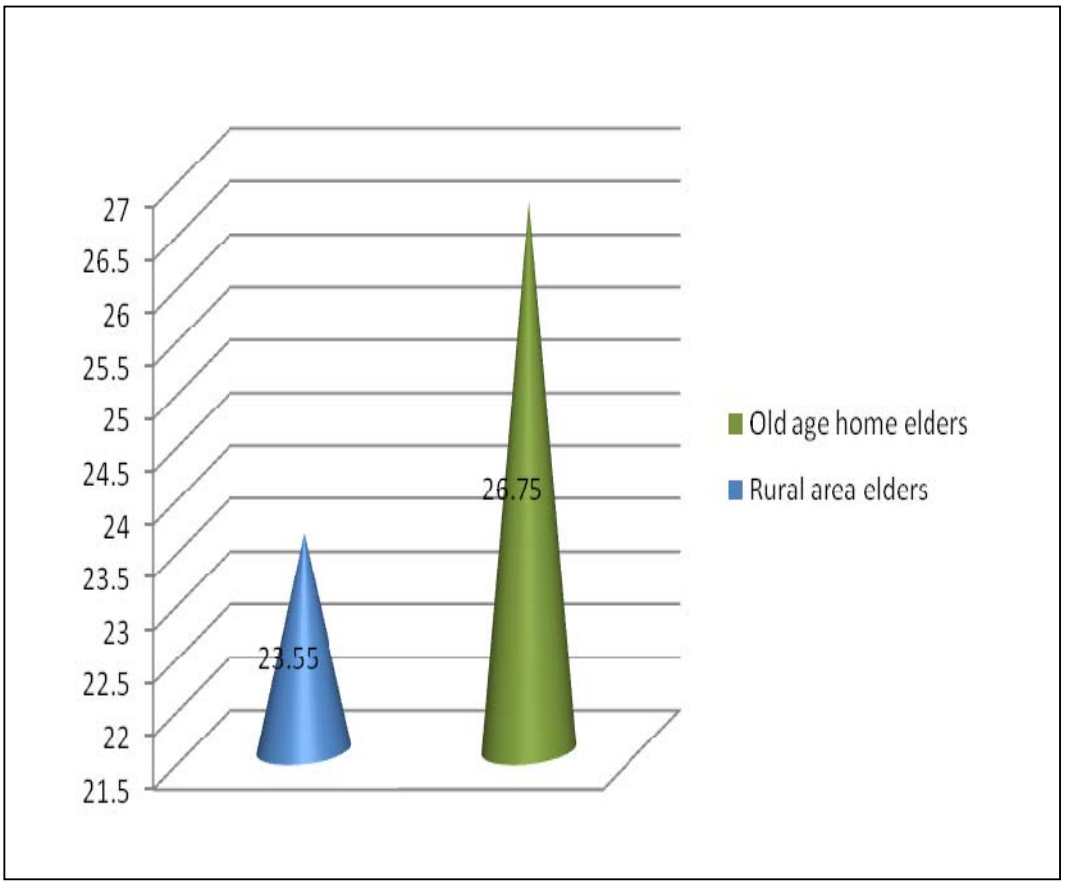

Figure 6: Comparison of mean dementia score among elderly residing in old age home and rural area.

SECTION V

This section deals with the association between the level of dementia among community dwelling elders and their demographic variables

***Table* 8. Association between demographic variables and level of dementia among community dwelling elders and their demographic variables N=200**

Demographic Characteristics	Level of dementia						Chi-square value
	Normal		Mild		Moderate		
	F	%	F	%	F	%	
Age							
61-70 years	122	61.5	13	6.5	-	-	
71-80 years	41	20.5	15	7.5	1	0.5	
81-90 years	1	0.5	6	3	1	0.5	41.879***
Sex							
Male	95	47.5	13	6.5	-	-	
Female	69	34.5	21	10.5	2	1	6.768*
Religion							
Christian	5	2.5	-	-	-	-	
Hindu	155	75.5	34	17	2	1	2.069#
Muslim	4	2	0	0	0	0	
Marital status							
Single	6	3	1	0.5	-	-	6.802#
Married	119	59.5	18	9	2	1	
Widow/widower	39	19.5	15	7.5	-	-	
Educational status							
Illiterate							
Primary	131	65.5	33	16.5	2	1	
secondary	28	14	1	0.5	-	-	6.802#
	5	2.5	-	-	-	-	
Occupation							
Unemployed	100	50	27	13.5	2	1	
Unskilled	37	18.5	7	3.5	0	0	
Semiskilled	15	7.5	-	-	-	15	8.300#
Skill full	9	4.5	0	0	0	0	
Farmer/shop owner	3	1.5	-	-	3	1.5	

Table 8 cont…

Type of family							
Nuclear	34	17	19	9.5	2	1	
Joint	129	64.5	15	7.5	-	-	22.855***
Large family	1	0.5	-	-	-	1	
Head of family							
Self	16	8	4	2	-	-	
Husband / wife	28	14	4	2	-	-	
Son/daughter	114	57	24	12	2	1	
Relatives	6	3	2	1	0	0	1.828#
Family size							
1-3	7	3.5	8	4	-	-	
4-6	115	57.5	24	12	1	0.5	
7-9	42	21	2	1	1	0.5	23.713***
Pensioner							
Yes	4	2	5	2.5	-	-	
No	160	80	29	14.5	2	1	9.956*
Dementia – family members							
Yes	164	82	34	17	2	1	
No	-	-	-	-	-	-	
Consumption of multi vitamin							
Yes	39	19.5	7	3.5	-	-	
No	125	62.5	27	13.5	2	1	0.765#
History of brain injury							
Yes	-	-	1	0.5	-	-	
No	164	82	33	16.5	2	1	4.907#
Dietary intake							
Adequate	144	72	10	5	10	5	
Moderate	5	2.5	27	13.5	2	1	
inadequate	-	-	1	0.5	1	0.5	8.143*

*significance at 0.05 level

** Significance at 0.01 level

*** Significance at 0.001 level

not significant at 0.05 level

To find out the association between the level of dementia among community dwelling elders and their demographic variables, the null hypothesis stated was:

H_{02}: There will be no significant association between the level of dementia among community dwelling elders and their demographic like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, pensioner, family history of dementia, consumption of multi vitamin, history of brain injury and, intake of dietary habits

Table 8 describes that there is a significant association between the level of dementia among community dwelling elders and selected demographic variables such as age ($x2= 41.879$, df-4, at $p > 0.001$) ,sex ($x2 = 6.768$,df-2, at $p > 0.05$), type of family ($x2 = 22.855$,df-4, at $p > 0.01$), family size $x2 = (23.713$,df-4, at $p > 0.01$) pensioner($x2 = 9.956$, df-2, at $p > 0.05$) and dietary intake ($x2 = 8.143$, df-4, at $p > 0.05$) whereas other variables did not have any association. Hence the researcher rejected the null hypothesis and accepted the research hypothesis.

SECTION VII

This section deals with the association between the level of dementia among old age home dwelling elders and their demographic variables

***Table* 9. Association between demographic variables and level of dementia among old age home dwelling elders and their demographic variables (n = 100)**

Demographic Characteristics	Level of dementia						Chi-square value
	Normal		Mild		Moderate		
	F	%	F	%	F	%	
Age							
61-70 years	33	33	4	4	-	-	
71-80 years	40	40	9	9	1	1	
81-90 years	10	10	1	1	1	1	36.088***
Sex							
Male	21	21	5	5	-	-	
Female	62	62	9	9	3	3	1.762#
Religion							
Christian	1	1	1	1	-	-	
Hindu	81	81	13	13	3	3	2.409#
Muslim	1	1	1	1	-	-	
Marital status							
Single	6	6	2	2	-	-	
Married	38	38	4	4	1	1	
Widow/widower	39	39	8	8	2	2	2.637#
Educational status							
Illiterate	45	45	13	13	3	3	
Primary	17	17	-	-	-	-	
Secondary	17	17	1	1	-	-	
Higher - Secondary	3	3	-	-	-	-	9.754#
graduate	1	1	-	-	-	-	
Occupation							
Unemployed	71	71	12	12	3	3	
Unskilled	2	2	1	1	-	-	
Semiskilled	3	3	-	-	-	-	
Skill full	1	1	1	1	-	-	
Farmer/shop	4	4	1	1	-	-	2.571#

Table 9 cont…

owner	2	2	-	-	-	-	
Type of family							
Nuclear	54	54	7	7	3	3	
Joint	28	28	7	7	0	0	
Large family	1	1	-	-	-	-	3.244***
Head of family							
Self	6	6	1	1	-	-	
Husband / wife	2	2	-	-	-	-	
Son/daughter	39	39	6	6	1	1	1.218#
Relatives	39	39	7	7	2	2	
Family size							
1-3	8	8	-	-	1	1	
4-6	47	47	9	9	1	1	
7-9	27	27	5	5	1	1	3.940#
10-12	1	1	-	-	-	-	
Reason for entry to old age home							
Own decision							
Forced By family members	47	47	7	7	1	1	3.558#
None to take care	31 5	31 5	6 1	6 1	1 1	1 1	
Pensioner							
Yes	35	35	10	10	2	2	
No	48	48	4	4	1	1	3.940#
Dementia – family members							
Yes	82	82	14	14	3	3	4.729#
No	1	1	-	-	-	-	
Consumption of multi vitamin							
Yes	1	1	-	-	-	-	
No	82	82	14	14	3	3	0.207#
History of brain injury							
Yes	82	82	14	14	3	3	
No	1	1	-	-	-	-	0.207#
Dietary intake							
Adequate	62	62	2	2	-	-	
Moderate	21	21	5	5	1	1	
inadequate	-	-	7	7	2	2	2.26#

*** Significance at 0.001 level

not significant at 0.05 level

To find out the association between the level of dementia among old age home dwelling elders and their demographic variables, the null hypothesis stated was:

H_{03}: There will be no significant association between the level of dementia among old age home dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, reason for entry to old age home done by, pensioner, family history of dementia, consumption of multi vitamin, history of brain injury and, intake of dietary habits

Table 9 describes that there is a significant association between the level of dementia among old age home dwelling elders and their age (36.088, df-6, at $p > 0.001$). Other variables did not have any association with level of dementia. Hence the researcher rejected the null hypothesis and accepted the research hypothesis.

CHAPTER V

DISCUSSION

The present study intends to assess the prevalence and to compare the level of dementia among old age home dwelling elders and community dwelling elders in Madurai. Descriptive comparative non -experimental design was used to conduct the study.

The study was conducted in the selected community areas and old age homes in Madurai. 200 elderly peoples from community area and 100 elderly peoples from old age homes were screened for dementia using MMSE. The study findings are discussed in this chapter with reference to the objectives

The objectives of the study are:

1. To assess the overall prevalence of dementia.
2. To assess and compare the level of dementia among community dwelling elders and age home dwelling elders
3. To find out the association between the level of dementia among community dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and intake of dietary habits.
4. To find out the association between the level of dementia among old age home dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, reason to entry to old age home was done by, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and intake of dietary habits.

DEMOGRAPHIC CHARACTERISTICS

1. (a) Personal Demographic profile

The data presented in table 1 shows that

Regarding age, among rural elders, nearly two third of the subjects (67.5%) were in the age group of 61-70 years whereas in old age home elders, half of them (50%) belonged to 71-80 years of age; among rural elders, half of the subjects (54%) were males, compared to old age home elders where most of the subjects (74%) were females; majority of the subjects (96%) were Hindus; nearly half of the subjects (48%) were widow/widower in old age home whereas only 54 (27%) samples in rural area respectively; illiterates (75.6%) dominated the samples size among both the groups and most of the samples (71.66%) were unemployed.

1. (b) Family profile

The data presented in table 2 shows that

The nuclear family samples were higher in old age home (64%) than in rural area (27.5%). Most of the samples had son /daughter as head of family respectively 70% in rural area and 46% in old age home, two third of subjects had a family size 4-6

1. (c). Predisposing factors

The data presented in table 3 shows that

*Most of the samples decided to stay alone by themselves in rural area (95.5%) and in old age home(62%), which shows that they were alone without family support. Loneliness and social isolation predisposes to dementia (Gureie, Kola, Abjona,and Gureje, 2011).Only one subject had the history of brain injury in rural area where as in old age home there is no history of brain injury, 46 (23%) samples

had the habit of multivitamin intake in rural area whereas only one (0.33%) subject had the habit in old age home. Only one subject had the family history of dementia in old age home, whereas in rural area there is no family history of dementia. Many a times dementia is not identified and reported (Livingston et al 2007). The pensioner samples in old age home (49%) were higher than rural area (9%). Large portion of samples had adequate dietary intake (79.3%). This shows that the elders in rural area have no bail up financial support during old age.

Objective 1: To assess the overall prevalence of dementia

The data obtained from the elders revealed that 82.3% of the elderly are non demented, elderly with mild dementia were 16.0%, moderate 1.7%. There was no report of severe dementia, hence the overall prevalence of dementia was 17.7%.

The above findings are supported by the following studies:

According to WHO report (2005) the numbers of people affected by dementia will double every 20 years and well reach to 81.1 millions by 2040. Most people with dementia live in developing countries 60% in 2001, rising to 71% by 2040 and the numbers in developed countries are forecast to increase by 100% between 2001 and 2040.

Shaji et. al. (2005) who reported that the prevalence of dementia in an urban population in Kerala, was 33.6 per 1000 (95% CI 27.3-40.7)., Sunil et al (2008) found that the prevalence rate of dementia as estimated in their study was 6.5%, which is higher than that reported from other parts of India and in other Asian countries. Jithu, and Jyothi(2010) found that prevalence of dementia in the community varied between 0.9-7.5% among the people above 65 years.

In the present study prevalence of dementia is 17.7% which is higher. So the dementia rate is increasing. The identified common risk factor for dementia through literature review were illiteracy, unhealthy life style (Uwake.et. al., 200o), indicator of socio economic disadvantage in early life (Marcia scazufar et al 2008),Family history of dementia(Rice et al 2003). In India, dementia is seen as a normal part of ageing (Patel and Prince 2001). Community medical services fail to meet the needs of older people with dementia, because of their focus upon acute 'treatable' conditions, their lack of outreach, and their inability to provide education and long-term support to family care givers (Livingston et al 2007).

Objective 2: To compare the level of dementia among community dwelling elders and old age home dwelling elders

Among community dwelling elders 82.0% of the elderly are non demented and elderly with mild and moderate dementia were 17.0% and 1.0% respectively. The prevalence of dementia in rural area was found to be 18%. In old age home dwelling elders 83.0% of the elderly were non demented, elderly with mild and moderate dementia were 17.0% and 3.0% respectively. The prevalence of old age home was found to be 17%. Anandhi (2011) found that prevalence of dementia in an urban old age home, Madurai, was 51.61%. The prevalence level of dementia in urban old age home is slightly lesser (17%) than that of community (18%). More number (3%) of elderly were found with moderate level in old age home but only 1% were found with moderate level of dementia in community. The obtained 't' value of -2.40 at df (298) was significant at 0.05 level. So there is a significant difference between community dwelling elders and old age home dwelling Elders. The mean score of dementia of community elderly dwellers is 23.55 and the mean score of old age home

elderly dwellers is 26.75. This shows that there is more number of demented elders in the rural area than in the urban area.

The present study was supported by the following studies:

Gureie, Kola, Abjona,and Gureje (2011) conducted a prevalence study which estimated the incidence of dementia was 21.85 per 1,000 person-years (95% confidence interval=17.67-27.03).). Greater incidence of dementia was found with more-rural residence and poorer economic status. Social isolation was found to be the major risk factor for incident of dementia in this population.

Rajkumar & Kumar (2006) reported a higher prevalence of dementia in the rural community than in urban settings. Shibayama et. al. (2006) also found higher prevalence rates of dementia in rural areas of Japan compared with urban areas. Differences in lifestyle, health awareness and healthcare delivery systems may be the factors contributing to this difference. Moreover, people in urban areas are better educated and more in touch with current events, and so perform better on cognitive testing.

The researcher is of the opinion that the reason for more dementia among rural elders could be because most of the elders have an inadequate knowledge regarding prevention of dementia, illiteracy and less usage of health resources.This also may be the reason for the lack of reporting regarding dementia. The prevalence of dementia is increasing also in urban areas and old age homes profoundly, which may be due to their isolation from family.

Objective 3: To find out the association between the level of dementia among community dwelling elders and their demographic variables like age, sex,

religion, education, marital status, occupation, type of family, head of family, family size, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and, intake of dietary habits

Table 7 portrays the association of level of dementia with demographic variables of rural elders. It shows that there is statistically significant association between the level of dementia in community dwelling elders and selected demographic variables.

It was found that there is an association between the level of dementia among community dwelling elders and their selected demographic variables. As per results there was significant association between level of dementia and selected demographic variables such as age ($x2 = 41.879$, df-4, at $p > 0.001$) ,sex ($x2 = 6.768$,df-2, at $p > 0.05$), type of family ($x2 = 22.855$,df-4, at $p > 0.01$), family size $x2 = (23.713$,df-4, at $p > 0.01$) pensioner ($x2 = 9.956$, df-2, at $p > 0.05$) ,and dietary intake ($x2 = 8.143$, df-4, at $p > 0.05$) while other variables did not have any association with level of dementia.

The findings were supported by the study done by Poddar.K, et. al. (2011) which revealed that among females, the prevalence of dementia was observed (7.2%) to be double than that in males (3.8%)., Chandra et, al (2002) found that greater age was associated significantly with higher prevalence of both Alzheimer's disease and all dementias, but higher gender nor literacy was associated with prevalence. Uwakwe, et.al (2009) found that the prevalence of dependence was 24.3% (95% confidence interval=22.1-26.5%), with a concentration in participants aged 80 and older. Only 1% of the participants received a pension and fewer than 7% had paid work. Those who were dependent were less likely than others to receive income from their family

Schneeider et.al.,(2006) portray that the age-standardised incidence of dementia was 14.7 per 1000 person-years (95%CI 11.3-18.2 per 1000 person-years). The increased risk was significantly associated with age, female gender (adjusted odds ratio 2.48, 95%CI 1.20-5.13), low educational levels, smoking, and living with fewer family members

Libre..,et. al.(2011) found that high incidence of dementia and increased risk among people having low education levels but high income suggest a more potential epidemic and burden of dementia populations in China. Maintaining social network and activities and reducing cardiovascular factors in late life could be integrated into current multi-faceted preventive strategies for curbing the epidemic of dementia.

Objective 4: To find out the association between the level of dementia among old age home dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, reason to entry to old age home was done by, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and, intake of dietary habits

Table 8 explains the association between the level of dementia among old age home dwelling elders and their demographic variables. It shows that there is no significant statistical association between level of dementia and selected demographic variables except age.

The study findings were in concordance with the experimental study conducted by Anandi (2011) which explains that there is no statistical association

between level of dementia and sex, education, religion, marital status, comorbidity etc.

The study findings corroborate with the study findings conducted by Jotheeswaran, Williams and Prince (2010) who conducted a prospective population cohort study in the urban area of Chennai. Among the 1005 participants, the dementia status was associated with age and sex (X^2-2.05, 95%CI).

CHAPTER VI

SUMMARY, FINDINGS, IMPLICATIONS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

This chapter presents the summary of the study, findings and its implications for nursing and health care services and ends with recommendations for further research in this field.

SUMMARY OF THE STUDY

This study was undertaken to determine the prevalence and to compare the level of dementia among old age home dwelling elders and community dwelling elders.

The descriptive comparative survey design was used by the researcher to assess the level of dementia among elderly dwellers. Total enumerative sampling technique was used to select 300 samples (200 samples from community area and 100 samples from old age homes). The tool used was MINI MENTAL STATUS EXAMINATION. The collected data was analyzed using both descriptive and inferential statistics based on the objectives of the study

The objectives of the study are:

1. To assess the overall prevalence of dementia
2. To assess and compare the level of dementia among community dwelling elders and old age home dwelling elders
3. To find out the association between the level of dementia among community dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family

size, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and, intake of dietary habits

4. To find out the association between the level of dementia among old age home dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, reason to entry to old age home was done by, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and, intake of dietary habits

MAJOR FINDINGS OF THE STUDY

The overall prevalence

In the study it was found that 82.3% of the elderly were non demented, elderly with mild dementia were 16% and moderate 1.7%; there was no report of severe dementia, hence the prevalence of dementia was 17.7%

Prevalence among community dwelling elders

In the study among community dwelling elders 82% of the elderly are non-demented, elderly with mild dementia were 17% and moderate (1%); there was no report of severe dementia, hence the prevalence of dementia among community dwelling elders was 18%

Prevalence of dementia among old age home dwelling elders

In the study among the old age home dwelling elders 83% of the elderly were non demented, elderly with mild dementia were 14%, moderate 3% there was no report of severe dementia, and hence the prevalence of dementia among old age home dwelling elders was 17%

Comparison of the level of dementia

The prevalence of the dementia in rural was 18% and in old age home 17%. Number of elders with moderate level of dementia were more (3%) in old age home than rural (1.7), whereas in rural mild level of dementia was prevalent 17% as compared 14% old age home. There was no report of severe dementia

Comparison of mean score cognition level assessed by MMSE

The dementia level has been assessed in rural and old age home. The old age home dwelling elders had good cognition level than the rural dwelling elders. The mean score of old age home elderly dwellers was 26.75 and the mean score of community elderly dwellers was 23.5. There was statistically significant difference between mean cognitive score of rural dwelling elders and old age home dwelling elders (M.D: -2.40, $p > 0.05$) i.e., the rural elders experienced more level of dementia than home for aged elders (the cognition level of rural dwelling elders is poorer than that of old age home dwelling elders).

Association between demographic variables and level of dementia

Among rural dwelling elders, there was statically significant association between the level of dementia and selected demographic variables like age, sex, type of family, family size; reason for staying alone was done by, pensioner & dietary intake. Other variables, the association were insignificant

Among old age home dwelling elders there was statically significant association between level of dementia and their age (36.088, df-6, at p 0.001). For other variables the association was insignificant.

LIMITATIONS

1. Sample size in elderly subjects with rural and old age home were respectively 200 and 100. So findings should be generalized with caution.
2. Setting of the study was chosen due to the researcher's familiarity and it was not by random selection. Due to this methodological limitation, the findings should be generalized only to the selected rural areas and old age homes.

IMPLICATIONS

The findings of the study have practical application in the field of nursing. The implication of the study could be discussed in four areas namely nursing practice, nursing education, nursing research and nursing administration

Implication for Nursing Practice

- The study findings reiterate the importance of community health nurse's role in finding out the dementia level among community dwelling elders and old age home dwelling elders. Hence it is the responsibility of the community health nurse to educate the elders about the social support available for the subjects with dementia.
- The nurse has to counsel the family care giver to seek treatment.
- The nurse should know the life style practice of the people in their living area to adopt healthy life style practice to prevent further complication.
- The people should be educated by the nurse on the signs and symptoms of dementia and advised to come for treatment as early as possible to prevent complications

Nursing Education

- ✓ Since the study findings show the level of dementia among rural and old age homes dwelling elders, the student nurse should be informed about the burden of dementia. Student nursing curriculum can include conduction of camps and mass health education program on dementia to the elderly people.
- ✓ This study will help the students to compare the other possible setting to find out the prevalence of dementia.
- ✓ Care giver training can be organized to care for these demented elders.

Nursing Research

- ➢ The researcher can work on how to prevent the occurrence of dementia. Research studies on the dementia of various communities can be done and education can be given on each factor by community health nurse to improve the health status of elderly. They can also study the causes of dementia in each community and based on the results future planning can be done.

The Nursing Administration

- ➢ The present study was conducted in selected area of Madurai

  The researcher found that there was a need to improve the preventive activities related to demented elders.
- ➢ The finding could be forwarded to Ministry of Health and Family Welfare to improve infrastructure to care for rural elderly with dementia.
- ➢ It was also found that there had been a lack of awareness among elderly and family members in the rural areas, which should be improved by the Primary Health Centre.

- The Ministry of Health and Family Welfare, Tamilnadu, should increase the number of nurses in the community.
- The administrator must arrange ongoing in service education to educate the nurse to indentify demented elders and arrange for referral

RECOMMENDATIONS

Based on the study the recommendations are made. Recommendations for future research are following:

- A similar study can be replicated with larger sample size.
- A similar kind of study can be conducted on a longitudinal basis.
- A comparative study can be conducted between rural dwelling elders and urban dwelling elders.
- A study can be done to assess the knowledge and attitude of elderly regarding prevention of dementia.
- A study can be done to assess the knowledge and attitude of caregiver burden of dementia among family care givers .
- A comparative study be done to assess the life style practices among institutionalized and non institutionalized elders with dementia.
- A comparative study on life style practices elderly with dementia in various parts of country / world can be done.

CONCLUSION

The findings of the study have been discussed in terms of the objectives, theoretical base and hypotheses.

- Rural dwelling elders were facing more dementia than old age home dwelling elders.
- There was significant difference in the severity of dementia between old age home dwelling elders and rural dwelling elders.
- Among rural dwelling elders, there was a significant association between the level of dementia and selected demographic variables such as age, sex, type of family, family size, decision to stay alone, pensioner and dietary intake.
- There was no significant association between level of dementia and selected demographic variables among old age home dwelling elders.

CHAPTER VI

SUMMARY, FINDINGS, IMPLICATIONS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

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The objectives of the study are:

1. To assess the overall prevalence of dementia
2. To assess and compare the level of dementia among community dwelling elders and old age home dwelling elders
3. To find out the association between the level of dementia among community dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family

size, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and, intake of dietary habits

4. To find out the association between the level of dementia among old age home dwelling elders and their demographic variables like age, sex, religion, education, marital status, occupation, type of family, head of family, family size, reason to entry to old age home was done by, pensioner, family history of dementia, consumption of multi vitamin ,history of brain injury and, intake of dietary habits

MAJOR FINDINGS OF THE STUDY

The overall prevalence

In the study it was found that 82.3% of the elderly were non demented, elderly with mild dementia were 16% and moderate 1.7%; there was no report of severe dementia, hence the prevalence of dementia was 17.7%

Prevalence among community dwelling elders

In the study among community dwelling elders 82% of the elderly are non-demented, elderly with mild dementia were 17% and moderate (1%); there was no report of severe dementia, hence the prevalence of dementia among community dwelling elders was 18%

Prevalence of dementia among old age home dwelling elders

In the study among the old age home dwelling elders 83% of the elderly were non demented, elderly with mild dementia were 14%, moderate 3% there was no report of severe dementia, and hence the prevalence of dementia among old age home dwelling elders was 17%

Comparison of the level of dementia

The prevalence of the dementia in rural was 18% and in old age home 17%. Number of elders with moderate level of dementia were more (3%) in old age home than rural (1.7), whereas in rural mild level of dementia was prevalent 17% as compared 14% old age home. There was no report of severe dementia

Comparison of mean score cognition level assessed by MMSE

The dementia level has been assessed in rural and old age home. The old age home dwelling elders had good cognition level than the rural dwelling elders. The mean score of old age home elderly dwellers was 26.75 and the mean score of community elderly dwellers was 23.5. There was statistically significant difference between mean cognitive score of rural dwelling elders and old age home dwelling elders (M.D: -2.40, $p > 0.05$) i.e., the rural elders experienced more level of dementia than home for aged elders (the cognition level of rural dwelling elders is poorer than that of old age home dwelling elders).

Association between demographic variables and level of dementia

Among rural dwelling elders, there was statically significant association between the level of dementia and selected demographic variables like age, sex, type of family, family size; reason for staying alone was done by, pensioner & dietary intake. Other variables, the association were insignificant

Among old age home dwelling elders there was statically significant association between level of dementia and their age (36.088, df-6, at p 0.001). For other variables the association was insignificant.

LIMITATIONS

1. Sample size in elderly subjects with rural and old age home were respectively 200 and 100. So findings should be generalized with caution.
2. Setting of the study was chosen due to the researcher's familiarity and it was not by random selection. Due to this methodological limitation, the findings should be generalized only to the selected rural areas and old age homes.

IMPLICATIONS

The findings of the study have practical application in the field of nursing. The implication of the study could be discussed in four areas namely nursing practice, nursing education, nursing research and nursing administration

Implication for Nursing Practice

- The study findings reiterate the importance of community health nurse's role in finding out the dementia level among community dwelling elders and old age home dwelling elders. Hence it is the responsibility of the community health nurse to educate the elders about the social support available for the subjects with dementia.
- The nurse has to counsel the family care giver to seek treatment.
- The nurse should know the life style practice of the people in their living area to adopt healthy life style practice to prevent further complication.
- The people should be educated by the nurse on the signs and symptoms of dementia and advised to come for treatment as early as possible to prevent complications

Nursing Education

- ✓ Since the study findings show the level of dementia among rural and old age homes dwelling elders, the student nurse should be informed about the burden of dementia. Student nursing curriculum can include conduction of camps and mass health education program on dementia to the elderly people.
- ✓ This study will help the students to compare the other possible setting to find out the prevalence of dementia.
- ✓ Care giver training can be organized to care for these demented elders.

Nursing Research

- ➢ The researcher can work on how to prevent the occurrence of dementia. Research studies on the dementia of various communities can be done and education can be given on each factor by community health nurse to improve the health status of elderly. They can also study the causes of dementia in each community and based on the results future planning can be done.

The Nursing Administration

- ➢ The present study was conducted in selected area of Madurai

  The researcher found that there was a need to improve the preventive activities related to demented elders.
- ➢ The finding could be forwarded to Ministry of Health and Family Welfare to improve infrastructure to care for rural elderly with dementia.
- ➢ It was also found that there had been a lack of awareness among elderly and family members in the rural areas, which should be improved by the Primary Health Centre.

- The Ministry of Health and Family Welfare, Tamilnadu, should increase the number of nurses in the community.
- The administrator must arrange ongoing in service education to educate the nurse to indentify demented elders and arrange for referral

RECOMMENDATIONS

Based on the study the recommendations are made. Recommendations for future research are following:

- A similar study can be replicated with larger sample size.
- A similar kind of study can be conducted on a longitudinal basis.
- A comparative study can be conducted between rural dwelling elders and urban dwelling elders.
- A study can be done to assess the knowledge and attitude of elderly regarding prevention of dementia.
- A study can be done to assess the knowledge and attitude of caregiver burden of dementia among family care givers .
- A comparative study be done to assess the life style practices among institutionalized and non institutionalized elders with dementia.
- A comparative study on life style practices elderly with dementia in various parts of country / world can be done.

CONCLUSION

The findings of the study have been discussed in terms of the objectives, theoretical base and hypotheses.

- Rural dwelling elders were facing more dementia than old age home dwelling elders.
- There was significant difference in the severity of dementia between old age home dwelling elders and rural dwelling elders.
- Among rural dwelling elders, there was a significant association between the level of dementia and selected demographic variables such as age, sex, type of family, family size, decision to stay alone, pensioner and dietary intake.
- There was no significant association between level of dementia and selected demographic variables among old age home dwelling elders.

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OLINE REFERENCE

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APPENDIX – I

COPY OF LETTER SEEKING EXPERTS OPINION FOR TOOL AND CONTENT VALIDITY

From,

Mr.Thambi Durai

II year M.Sc., Nursing,

Sacred heart Nursing Collage

Ultra Trust, Madurai – 20.

To,

Respected Madam/Sir,

Sub: Experts opinion and suggestion for the tool for its validity

I am post graduate student (Community Health Nursing) of Sacred heart Nursing Collage. I have selected the below mentioned topic for the research project to be submitted to the Dr. M.G.R University, Chennai as fulfilment of Master Science in Nursing.

TITTLE OF THE TOPIC:

A study to determine the prevalence and to compare the level of dementia among old age home dwelling elders and community dwelling elders in Madurai

With regard to this may I kindly request you to content and validate my tool for its relevancy. I am enclosing the objectives of the study. I would be highly obliged and remain thankful for your great if you could validate and send it as possible.

Thanking you,

Place: Yours sincerely,
Date:

Enclosure

1. Mini Mental Status Examination Scale to assess the dementia status.
2. Opinionnaire regarding the tool

APPENDIX – II

COPY OF LETTER SEEKING PERMISSION FROM THE DDHS TO CONDUCT THE STUDY

To

The Deputy Director of Health services,
Viswanathapuram,
Madurai.

Respected Sir/Madam,

Sub: Sacred Heart Nursing Collage, Madurai – project work of M.Sc (N) student – permission requested – reg

We wish to state that Mr.Thambi Durai., one of our final year M.Sc., (N) student has to conduct a research project, which is to be submitted to the Tamilnadu Dr. M.G.R Medical University, Chennai in partial fulfilment of University requirements.

The topic of research project is " A study to determine the prevalence and to compare the level of dementia among old age home dwelling elders and community dwelling elders in Madurai "

We therefore request you to kindly permit him to do the research work under your valuable guidance and suggestions.

Thanking you,

Yours faithfully,
Principal,
SACRED HEART NURSING COLLAGE
ULTRA TRUST, MADURAI – 20.

APPENDIX – III

COPY OF LETTER SEEKING PERMISSION FROM THE OLD AGE HOME TO CONDUCT THE STUDY

To

The Chairman,
home for aged,
Madurai.

Respected Sir/Madam,

Sub: Sacred Heart Nursing Collage, Madurai – project work of M.Sc (N) student – permission requested – reg

We wish to state that Mr.Thambi Durai., one of our final year M.Sc., (N) student has to conduct a research project, which is to be submitted to the Tamilnadu Dr. M.G.R Medical University, Chennai in partial fulfilment of University requirements.

The topic of research project is " A study to determine the prevalence and to compare the level of dementia among old age home dwelling elders and community dwelling elders in Madurai "

We therefore request you to kindly permit him to do the research work under your valuable guidance and suggestions.

Thanking you,

Yours faithfully,

Principal,

SACRED HEART NURSING COLLAGE
ULTRA TRUST, MADURAI – 20.

APPENDIX – IV

List of Experts Consulted for the content validity of Research Tool

Dr. Joy Patricia Pushparani, M.D (community medicine)
Associate professor,
Institute of Community Medicine,
Coimbatore Medical Collage,
Coimbatore.

Dr. Nalini Jeyavanth Santha, M.Sc (N), Ph.D.(Paediatric nursing)
Principal,
Sacred heart nursing collage,
Madurai-20.

Dr. M. Karthikeyen, M.D (Psychiatric medicine)
Associate professor in Psychiatry,
Government Rajaji Hospital,
Madurai- 20.

Prof. (Mrs) Jancy Rachel Daisy, M.Sc (N),. Ph.D.
HOD , Department of Psychiatry, college of Nursing,
C.S.I.Jayaraj Annapakiam college of Nursing,
Madurai- .

Prof. (Mr)Sam Arun Praphu , M.Sc (N),. Ph.D.
HOD , Community Health Nursing, college of Nursing,
C.S.I.Jayaraj Annapakiam college of Nursing,
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Prof. (Mrs) Devakirubai, M.Sc (N), Ph.D. (Medical Surgical Nursing)
Professor,
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